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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,158	07/12/2004	Philippe Thurot	0510-1219	5346

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YOUNG & THOMPSON
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EXAMINER	
BOWERS, NATHAN ANDREW	
ART UNIT	PAPER NUMBER
1775	

NOTIFICATION DATE	DELIVERY MODE
02/01/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

Office Action Summary	Application No.	Applicant(s)	
	10/501,158	THUROT, PHILIPPE	
	Examiner	Art Unit	
	NATHAN A. BOWERS	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 November 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-11 and 13* is/are pending in the application.

4a) Of the above claim(s) *13* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 22 November 2010 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1) Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US 4670148) in view of Katz (US 4838733), Yao (US 6541073) and Billings (US 5653288).

With respect to claims 1, Schneider discloses an optimized system for the regulation and discontinuous measurement of the gas content in composting waste. At least one remote bay (Figure 1:19) contains one or more gas measurement probes (Figure 2:10.1-10.5) that are capable of determining oxygen and carbon dioxide concentration. This is disclosed in column 2, lines 30-58 and in column 3, lines 12-40. Although Schneider depicts a plurality of probes in the Figures, one of ordinary skill would have readily understood that only one probe could be used to measure gas content from a plurality of different sources. Column 5, lines 40-57 state that the operation of a gas intake pump (Figure 1:13) and a plurality of electric valves (Figure 2:11.1-11.5) is regulated by a program controller (Figure 1:17). A smooth pipe (Figure 1:9.3) connects each of the electric valves to a gas sampling device such that gases at the sampling device are sent to the measurement probes. Although Schneider does not expressly disclose the use of plastic pipes, plastic is considered to be a well known and versatile class of materials. The oxygen measurement probe is able to supply within a very short response time the measurement of oxygen content in the compost material. As evidenced by the Figures, the sampling device comprises a rod with two opposite ends able to be driven into a pile of compost. Schneider, however, does not expressly disclose that the sampling rods are tapered and include an air intake strainer.

Katz discloses a system in which air samples are removed from a compost pile using a plurality of sampling device rods (Figure 3:32). The rods are connected to a pump (Figure 1:78) capable of drawing gases through the use of suction. Column 3, lines 9-40 state that each rod includes an air intake strainer (Figure 3:48 and Figure 7:184). Katz additionally states that the end of the sample tube is rounded. See Figure 6. The rounded end of the Katz sample tube is considered to be tapered because it gradually becomes narrower toward the end. Rounded ends are inherently tapered because the thickness of the tube decreases steadily along the rounded section of the end.

Schneider and Katz are analogous art because they are from the same field of endeavor regarding compost gas removal devices.

At the time of the invention, it would have been obvious to include screens on each of the sampling rods disclosed by Schneider. Katz teaches that it is important to preclude the movement of solid compost chunks into the sampling rods. The use of screens effectively prevents such fouling while still allowing the sampling of gases. Katz teaches that the screens enable the passage of a great volume of gases over a given time, but holds back the solid materials of the landfill. It would have additionally been obvious to ensure that the end of the Schneider sampling rod is tapered. One of ordinary skill would have understood that this would have helped the rods penetrate through the waste pile without requiring pre-dug wells.

The combination of Schneider and Katz still differs from Applicant's invention because Katz does not expressly state that the air intake strainers are formed on hollow rods corresponding to associated pipes such that each pipe passes through a hollow rod and emerges inside the air intake strainer. Instead, Katz teaches that the air intake strainers are directly formed on the end of each pipe.

Billings discloses a contaminant removal system in which pipes (Figure 5:50) are inserted into injection wells formed within a soil sample. Each pipe is passed through a hollow rod (Figure 5:58) that includes an intake strainer formed by a plurality of ports (Figure 5:60) and a screen (Figure 5:62). Contaminants are removed from the soil sample by sucking a fluid through the screen and out each pipe. This is described in column 7, line 52 to column 8, line 59.

Schneider and Billings are analogous art because they are from the same field of endeavor regarding the removal of selected compounds from a compost/soil sample.

At the time of the invention, it would have been obvious to construct an air intake strainer at one end of each Schneider pipe by passing the pipes through hollow rods comprising the air intake strainers. One of ordinary skill would have found this construction to be functionally equivalent to the arrangement set forth by Katz (i.e. the direct formation of air intake strainers on the pipes). Because the combination of Schneider with Katz and Billings is simply the arrangement of old elements (i.e. plastic pipes, hollow tubes, air intake strainers, etc.) in a predictable way to obtain predictable results, the combination is obvious.

The combination of Schneider, Katz and Billings still differs from Applicant's invention because neither Schneider nor Katz teach the use of zirconium oxide sensors.

Yao discloses a zirconium oxide sensor capable of detecting oxygen levels in a plurality of biochemical applications. Column 1, lines 8-29 state that it is well known in the art to use zirconium oxide in the formation of electrode components within bioreactor oxygen probes.

Schneider and Yao are analogous art because they are from the same field of endeavor regarding oxygen detection sensors.

At the time of the invention, it would have been obvious to utilize the oxygen sensors disclosed by Yao in the system disclosed by Schneider. As evidenced by Yao, zirconium oxide probes are known in the art as effective means capable of monitoring oxygen concentrations within a gas stream. It would have been apparent to equip the system of Schneider with any oxygen sensor, including zirconia sensors, that are capable of effectively determining relative concentrations in real time.

With respect to claim 2, Schneider, Katz, Billings and Yao disclose the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 103 rejection above. In addition, Schneider clearly teaches that the electric values are physically separated from the program controller. Furthermore, the operation of the valves is regulated using the program controller.

2) Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US 4670148) in view of Katz (US 4838733), Billings (US 5653288) and Yao (US 6541073) as applied to claim 1, and further in view of Noble (US 4442974).

Schneider, Katz, Billings and Yao disclose the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 103 rejections above. Additionally, Katz clearly teaches that the sampling rods are connected to the pipe using a coupling (Figure 4:160) facilitating the fastening and insertion of the pipe. This is described in column 5, lines 47-64. Schneider, Katz and Billings, however, do not expressly teach the use of a coupling that includes a packing gland.

Noble discloses a land irrigation system comprising a system of pipes capable of moving a fluid from a main line (Figure 1:33) out through a sprinkler line (Figure 1:25). The system of pipes is complex and requires many couplings to facilitate the fastening of individual pipes to one another. Noble teaches in column 6, lines 13-33 and column 7, line 67 to column 8, line 51 that packing glands are used to form couplings.

Schneider and Noble are analogous art because they are directed toward the same field of endeavor regarding the forming of pipe connections.

At the time of the invention, it would have been obvious to utilize packing glands in forming the connection between the pipe disclosed by Schneider to each individual rod. Noble teaches that packing glands are beneficial because they serve to reduce leakage while allowing for rotation of the pipes while connected. It would have required only minor alterations to the Schneider reference in order to utilize packing glands at the junction between the pipe and each rod.

3) Claims 5, 6, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US 4670148) in view of Katz (US 4838733), Billings (US 5653288) and Yao (US 6541073), and further in view of Johnson (US 4026355).

Schneider, Katz, Billings, Yao and Noble disclose the combination as described in the 35 U.S.C. 103 rejections above. Schneider, however, does not expressly state that temperature is measured using at least one temperature probe.

Johnson discloses a method for testing and monitoring landfill gas comprising a plurality of rods (Figure 5:85) each capable of withdrawing a sample from the interior of a compost pile. Column 7, lines 21-33 further state that temperature probes are used to measure heat accumulation within the compost piles.

Schneider and Johnson are analogous art because they are from the same field of endeavor regarding compost gas monitoring devices.

At the time of the invention, it would have been obvious not only to provide oxygen concentration monitoring probes within the apparatus of Schneider, but also temperature monitoring probes as well. It is known in the art that temperature is a good indicator or microbial activity within a compost system. Furthermore, temperature readings can be used to anticipate undesirable pressure build-ups within the waste pile.

4) Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US 4670148) in view of Katz (US 4838733), Billings (US 5653288), Yao (US 6541073) and Johnson (US 4026355) as applied to claims 6 and 9, and further in view of Jackson (US 20020023505).

Schneider, Katz, Billings, Yao and Johnson disclose the apparatus set forth in claims 6 and 9, however do not expressly disclose the use of a rotameter.

Jackson discloses a system for removing air from the ground. Jackson teaches that a sampling rod (Figure 1:10) comprising a plurality of openings (Figure 1:12) is inserted into a subsurface region (Figure 1:13) so that air is removed from the subsurface for processing. This is disclosed in paragraph [0027]. Paragraphs [0031] and [0032] state that a rotameter is used to measure the rate of air flow through the sampling rod.

Schneider and Jackson are analogous art because they are from the same field of endeavor regarding subsurface air sampling devices.

At the time of the invention, it would have been obvious to include a rotameter device in the apparatus of Schneider. Jackson teaches that rotameters are desirable because they are well known in the art as effective flow rate measuring devices. Rotameters exhibit the additional advantage of forming a tight seal with a valve seat, thereby preventing air flow in a reverse direction. See Figure 4 and paragraph [0031].

Response to Arguments

Applicant's arguments filed 22 November 2010 with respect to the 35 U.S.C. 103 rejections involving the combination of Schneider, Katz, Yao and Billings have been fully considered but they are not persuasive. The majority of Applicant's arguments have already been asserted and subsequently addressed in prior Office Actions. However, a summary of the arguments made has been presented below.

Applicant's principle arguments are

(a) Schneider teaches multiple sensors, wherein at least one sensor is associated with each gas withdrawal line. Such a teaching does not give incentive to use only one sensor.

In response, please consider the following remarks.

One of ordinary skill would have found it obvious to operate the Schneider system using only one probe. As admitted by Applicant, the use of multiple sensors results in higher costs and more complexity for calibration and maintenance. Surely, it has been well known in the art for many years that the benefits of using additional equipment may in some instances be offset by associated increases in capital and operating costs.

(b) The cited prior art does not disclose hollow sampling rods driven directly into a pile of waste.

In response, please consider the following remarks.

It is noted that this limitation is an intended use recitation that does not serve to structurally distinguish the claimed invention from the prior art, and therefore is not given significant patentable weight when evaluating an apparatus claim. In response to applicant's argument that Schneider's hollow sampling rods are not driven directly into the waste, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to

patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

In the event that the Schneider hollow sampling rods are determined to be incapable of satisfying the claimed intended use, the Kaze reference is relied upon as evidence that it is well known in the art to taper the ends of a sampling rod to facilitate direct insertion.. One of ordinary skill would have understood that it would be beneficial to taper the Schneider sampling rods when it is determined that forming wells in the waste swaths is either a more expensive option or impossible.

(c) The apertures of Katz are not at the end of the drawtubes, but rather at a distance from the end.

In response, please consider the following remarks.

This argument has been previously addressed in previous Office Actions. The Katz apertures are located adjacent to the rounded, tapered bottom of each drawtube, and therefore are considered to be located at the "end" of each drawtube.

Conclusion

This is a non-final rejection.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan A. Bowers whose telephone number is (571) 272-8613. The examiner can normally be reached on Monday-Friday 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Marcheschi can be reached on (571) 272-1374. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nathan A Bowers/
Primary Examiner, Art Unit 1775